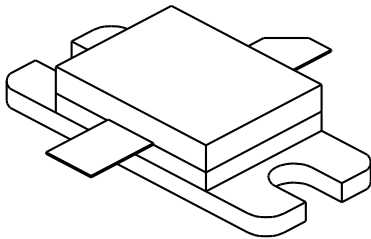


TPR 700

700 Watts, 50 Volts, Pulsed
Avionics 1030 - 1090 MHz

<p>GENERAL DESCRIPTION The TPR 700 is a high power COMMON BASE bipolar transistor. It is designed for pulsed systems in the frequency band 1030-1090 MHz. The device has gold thin-film metallization for proven highest MTTF. The transistor includes input returns for fast rise time. Low thermal resistance package reduces junction temperature, extends life.</p>	<p>CASE OUTLINE 55KT, Style 1 Common Base</p> 
<p>ABSOLUTE MAXIMUM RATINGS Maximum Power Dissipation @ 25°C² 2050 Watts</p> <p>Maximum Voltage and Current BVces Collector to Base Voltage 65 Volts BVebo Emitter to Base Voltage 3.5 Volts Ic Collector Current 55 Amps</p> <p>Maximum Temperatures Storage Temperature - 65 to + 200°C Operating Junction Temperature + 200°C</p>	

ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 1090 MHz	700			Watts
Pin	Power Input	Vcc = 50 Volts			150	Watts
Pg	Power Gain	PW = 10 µsec	6.7			dB
η_c	Collector Efficiency	DF = 1%		43		%
t_r	Rise Time				70	ns
VSWR	Load Mismatch Tolerance	F = 1090 MHz			30:1	

BVebo³	Emitter to Base Breakdown	Ie = 50mA	3.5			Volts
BVces	Collector to Emitter Breakdown	Ic = 100mA	65			Volts
h_{FE}	DC - Current Gain	Ic = 1000mA, Vce = 5 V	10			
θ_{jc}^2	Thermal Resistance				0.08	°C/W

- Note 1: At rated output power and pulse conditions
 2: At rated pulse conditions
 3: Cannot measure due to input return

Issue February 1996

GHZ TECHNOLOGY INC. RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE. GHZ RECOMMENDS THAT BEFORE THE PRODUCT(S) DESCRIBED HEREIN ARE WRITTEN INTO SPECIFICATIONS, OR USED IN CRITICAL APPLICATIONS, THAT THE PERFORMANCE CHARACTERISTICS BE VERIFIED BY CONTACTING THE FACTORY.



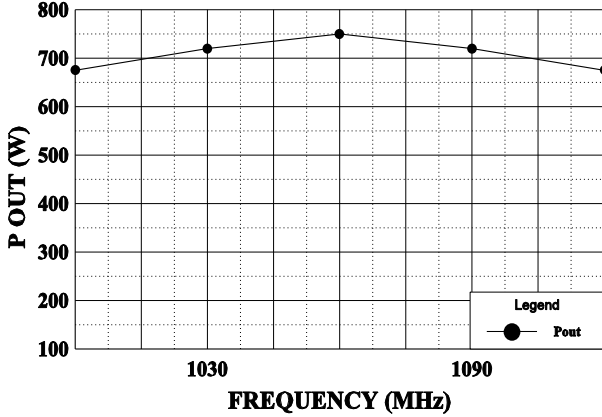
GHZ TECHNOLOGY
RF · MICROWAVE SILICON POWER TRANSISTORS

Typical Performance

TPR 700

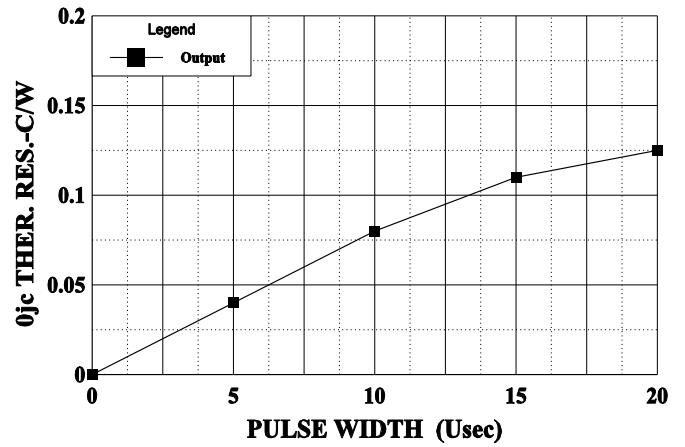
POWER OUTPUT VS FREQUENCY

Vcc = 50 V, Pin = 150 W, PW = 10us, 1%



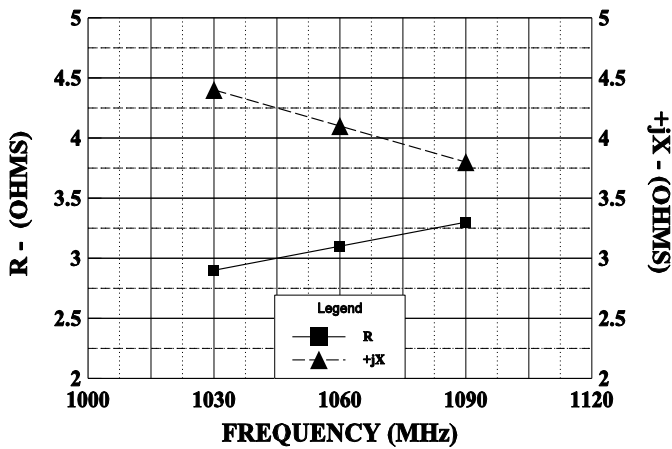
THERMAL RESISTANCE VS PULSE WIDTH

Vcc = 50 V, Tf = 30 C



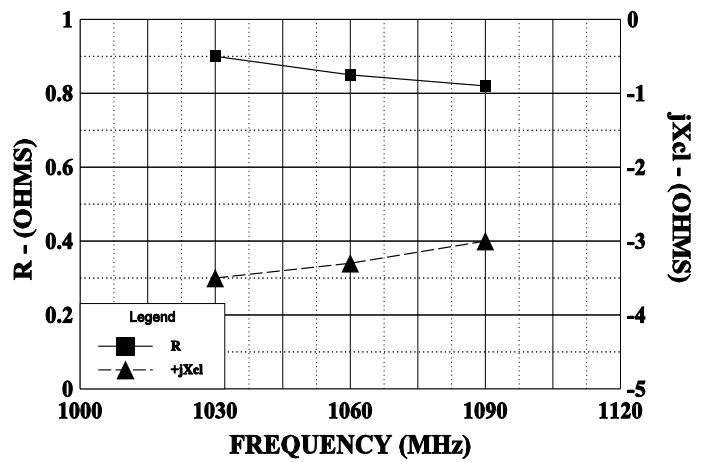
SERIES INPUT IMPEDANCE VS FREQUENCY

Vcc = 50 V, Pin = 150 W, PW = 10us, 1%



SERIES LOAD IMPEDANCE VS FREQUENCY

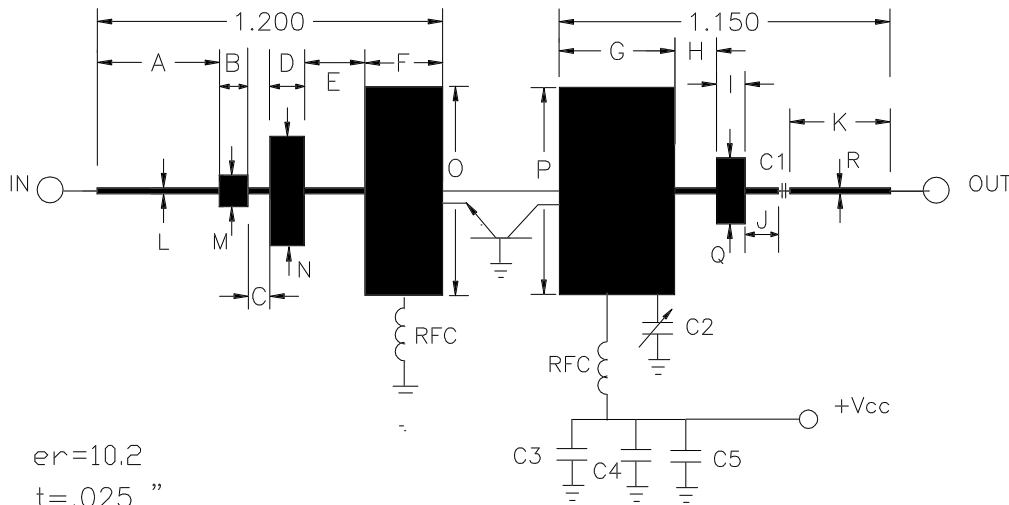
Vcc = 50 V, Po = 500 W, PW = 10us, 1%



REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
------	-----	-------------	------	----------

DIM	INCHES
A	.425
B	.100
C	.075
D	.120
E	.210
F	.270
G	.400
H	.145
I	.100
J	.115
K	.350
L	.021
M	.110
N	.380
O	.725
P	.720
Q	.230
R	.021



$\epsilon_r = 10.2$
 $t = .025$ "
 C1, C3 = 100 pf Chip
 C2 = .3 - 3.5 pf
 C4 = 1 uf
 C5 = 220 uf

GHZ TPR 700
 1030/1090 MHz

DATE: 5 OCT 95



CAGE OPJR2	DWG NO.	TPR 700	REV	1
	SCALE	1.5/1	SHEET	